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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,777	11/13/2003	Shigeru Nakagawa	089992-000000US	8760
20350 7590 02/19/2008 TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834				
EXAMINER				
DIACOU, ARI M				
ART UNIT		PAPER NUMBER		
3663				
MAIL DATE		DELIVERY MODE		
02/19/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/713,777

**Applicant(s)**

NAKAGAWA ET AL.

**Examiner**

ARI M. DIACOU

**Art Unit**

3663

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 4-7, 12 and 13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 4-7, 12 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

**DETAILED ACTION**

***Response to Arguments***

1. In the remarks filed 9-19-2007, applicant argued the following:
  - A. On page 5, that neither Naniwae, Li or Mak, alone or in combination, teach all the aspects of the claimed invention.
  - B. On page 5, that claims 4-7 and 12-14 have already been allowed. Examiner assumes that applicant is referring the claims of 10/655769.
2. In the remarks filed 11-27-2007, applicant argued the following:
  - C. On page 5, that applicant has corrected the amendment, and the response should be held in compliance.
3. Arguments A and B are moot in view of the new grounds of rejection, which has been necessitated by amendment.
4. Argument C is convincing, the claims filed 11-27-2007 are in compliance.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zah (USP No. 6434175).

- Regarding claim 1, Zah discloses An optical module arranged in an optical transmission path, comprising:
  - an optical amplifying unit [Fig. 8, #210] configured with a semiconductor [Col. 7, line 38] and disposed in series with and behind [Fig. 8, #210-410] an optical amplifying unit [Fig. 8, #210], wherein the optical amplifying unit

amplifies in high gain light input from the optical transmission path [Fig. 8, horizontal axis of fig 8 to the right of #210 reads on this]; and

- o an optical element [Fig. 8, #410] configured with a semiconductor [Modulator is disclosed as monolithically integrated with Phasor/DBR in Col. 7, line 4. Phasor/DBR contains an SOA (Col. 6, line 58). Therefore, the modulator is made of semiconductor.], wherein the optical element [Fig. 8, #410] includes an optical modulator [Col. 7, line 24], ~~an optical switch or a directional optical coupler~~ [withdrawn as per election of 8-2-2006] and propagates the light [Arrow at right of figure 8] amplified by the optical amplifying unit [Fig. 8, #210] to the optical transmission path [horizontal axis of figure 8], and is operative to produce gain of the optical amplifying element is sufficiently high [Col. 2, lines 11-24 discloses that the SOA is optional, implying that an SOA of any gain available may be selected] that insertion loss of the optical module is completely compensated. [Col. 2, lines 25-35 teaches that ]

but fails to disclose that "[the SOA] is operative to produce gain of the optical amplifying element is sufficiently high that insertion loss of the optical module is completely compensated." Zah teaches in [Col. 2, lines 11-24] that an SOA is optional, and in [Col. 2, lines 25-35] that the insertion loss of the modulators is 3dB or more. Therefore, it would have been obvious to one skilled in the art (e.g. an optical engineer) at the time the invention was made, to choose an SOA with more

than 3dB of gain, for the advantage of optimizing the power and SNR of the Phasar/DBR disclosed in Fig. 8 of Zah.

***Allowable Subject Matter***

9. Claims 4-7 and 12-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
10. Reasons for allowability: Claims 4-7 and 12-13 were rejected under obviousness-type non-statutory provisional double patenting over claims 1-4 and 10-11 respectively of then copending application 10/655769 (2004/0081389). Applicant responded on 5-15-2006 with a terminal disclaimer, which was approved on 5-26-2006, thereby binding the claim sets. Claims 1-4 and 10-11 of 10/655769 have since been patented (USP 6973238) unamended. Instant claims 4-7 and 12-13 would be allowed for the same reasons as claims 1-4 and 10-11 of 10/655769.

***Conclusion***

11. The references made herein are done so for the convenience of the applicant. They are in no way intended to be limiting. The prior art should be considered in its entirety.
12. The prior art which is cited but not relied upon is considered pertinent to applicant's disclosure.

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13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ari M. Diacou whose telephone number is (571) 272-5591. The examiner can normally be reached on Monday - Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on (571) 272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/AMD/

21-Feb-08

/Deandra M Hughes/

Primary Examiner, Art Unit 3663